Claims 1-20 (Withdrawn)

21. (Currently amended) A filter circuit assembly comprising:

at least one filter stage, said filter stage comprising at least one variable resistor,

a resistor/capacitor (RC) oscillator having an output, said RC oscillator further comprising at least one variable resistor;

a successive approximation register coupled to the output of the RC oscillator and generating a control value corresponding to the output of the RC oscillator, where the control value of the successive approximation register controls the resistance of the variable resistor of the filter stage and the resistance of the variable resistor of the RC [[oscillator;]] oscillator, and where the successive approximation register compares a frequency of the RC oscillator to a reference frequency to generate the control value;

wherein the variable resistor of the filter stage and the variable resistor of the RC oscillator have a substantially identical structure, where each variable resistor structure is closely coupled to a power supply terminal of the filter circuit assembly, and the variable resistor structure comprises a plurality of resistors coupled in series with one another and a plurality of transistors, each transistor coupled in parallel with a corresponding one of the plurality of resistors, where a gate of each transistor is coupled to a corresponding bit of the successive approximation register.

22. (Original) The assembly of claim 21, wherein the RC oscillator further comprises an RC digitally controlled oscillator (DCO).

23-24. (Canceled)

25. (Previously presented) The assembly of claim 21, wherein voltage across the variable resistor of the RC oscillator is substantially constant, so that a substantially constant current flows through the variable resistor.

26. (Previously presented) The assembly of claim 25, wherein the substantially constant current is mirrored by current mirrors for alternatingly charging and discharging a capacitor of the RC oscillator.

27. (Currently amended) The assembly of claim 21, further comprising

a reference oscillator having an output,

a [[resistor setting circuit]] successive approximation register having a first input for [[receiving]] coupling to the [[controlling]] output of the RC oscillator and a second input for receiving said output of the reference [[oscillator,]] oscillator to generate said control value.

[[wherein the controlling output of the resistor setting circuit controls the resistance of the variable resistors of the filter stage and the RC oscillator.]]

28. (Currently amended) The assembly of claim 27, wherein the controlling output of the RC oscillator delivers [[a]] said frequency of the RC oscillator.

29. (Original) The assembly of claim 28, wherein the frequency of the RC oscillator is a function of the variable resistor of the RC oscillator.

30. (Original) The assembly of claim 21, wherein the frequency of the RC oscillator is proportional to the frequency of the filter stage.

31-32. (Cancelled)

33. (Currently amended) The assembly of claim [[32,]] 27, wherein the [[resistor setting circuit]] successive approximation register adjusts values of the variable resistors until the frequency of the RC oscillator and the frequency of the reference oscillator assumes a predetermined proportion.

34. (Currently amended) The assembly of claim 21, [[comprising]] wherein said filter stage comprises multiple filter stages.

35. (Previously presented) The assembly of claim 34, in which the at least one filter stage comprises a filter circuit, the filter circuit comprising

an amplifier part, the amplifier part having a positive input, a negative input, a positive output, a negative output,

first and second resistors connected in series with the positive input of the amplifier part, having a first node between said first and second resistors, the second resistor being connected between the first resistor and the positive input of the amplifier part,

third and fourth resistors connected in series with the negative input of the amplifier part, having a second node between said third and fourth resistors, the fourth resistor being connected between the third resistor and the negative input of the amplifier part,

at least one capacitor connected between the positive and negative inputs of the amplifier part,

first and second feedback capacitor connected between the first and second nodes and the positive and negative outputs of the amplifier part,

an input buffer part, the input buffer part having a positive input, a negative input, a positive output, a negative output,

the input buffer part further comprising a first buffer output resistor associated to the positive output of the input buffer part, a second buffer output resistor associated to the negative output of the input buffer part,

wherein the first and third resistors comprise the first and second buffer output resistors, respectively.

36. (Previously presented) The assembly of claim 34, wherein the at least one filter stage comprises a variable capacitor.

37. (Original) The assembly of claim 35, wherein the variable capacitor comprises multiple switchable capacitors

38. (Original) The assembly of claim 37, wherein the assembly is implemented on a chip.

39. (Original) The circuit assembly of claim 35, wherein said first and second output buffer resistors are connected in series with said first and third resistors, respectively.

40. (Currently amended) The circuit assembly of claim 21, [[wherein]] further comprising a required supply voltage of the assembly [[is]] not higher than 1.5 V.

41. (Currently amended) A method for adjusting the frequency or compensating process parameters of a Sallen-Key type filter having at least one filter stage with variable resistors, the method including the steps of

providing an RC oscillator having an output, said RC oscillator further comprising at least one variable resistor, wherein the variable resistor of the filter stage and the variable resistor of the RC oscillator have a substantially identical structure, where each variable resistor structure is closely coupled to a power supply terminal of the filter stage and the RC oscillator,

comparing a frequency of said RC oscillator with a reference frequency to generat a control value,

controlling the resistance of the variable resistor of a filter stage with the [[output of the RC oscillator,]] control value,

controlling the resistance of the variable resistor of the RC oscillator with the [[output of the RC oscillator.]] control value.

42. (Currently amended) The method of claim 41, further comprising the ~~step~~ steps of

providing a reference oscillator having an [[output,]] output for producing the reference frequency,

providing a [[resistor setting circuit]] successive approximation register having a first input for [[receiving the controlling]] coupling to said output of the RC oscillator and a second input for receiving said output of the reference oscillator, and a controlling [[output,]] for generating the control value.

[[the method further comprising the step of controlling the resistances of the variable resistors of the filter stage and the RC oscillator with the controlling output of the resistor setting circuit.]]

43. (Cancelled)

44. (Original) The method of claim 42, further comprising the step of adjusting the controlling output of the resistor setting circuit as a function of at least one of the following:
a, the frequency of the RC oscillator
b, the frequency of the reference oscillator.

45. (Previously presented) The method of claim 44, further comprising the step of adjusting the resistances of the variable resistors until the frequency of the RC oscillator and the frequency of the reference oscillator assumes a predetermined proportion.

46. (Previously presented) The method of claim 41, further comprising the step of employing a filter circuit with multiple filter stages, wherein a filter stages comprises

an amplifier part, the amplifier part having a positive input, a negative input, a positive output, a negative output,

first and second resistors connected in series with the positive input of the amplifier part, having a first node between said first and second resistors, the second resistor being connected between the first resistor and the positive input of the amplifier part,

third and fourth resistors connected in series with the negative input of the amplifier part, having a second node between said third and fourth resistors, the fourth resistor being connected between the third resistor and the negative input of the amplifier part,

at least one capacitor connected between the positive and negative inputs of the amplifier part,

first and second feedback capacitor connected between the first and second nodes and the positive and negative outputs of the amplifier part, respectively,

an input buffer part, the input buffer part having a positive input, a negative input, a positive output, a negative output,

the input buffer part further comprising a first buffer output resistor associated to the positive output of the input buffer part, a second buffer output resistor associated to the negative output of the input buffer part,

the method further including the step of including the resistances of said first and second buffer output resistors in the resistances of said first and third resistors, respectively.

47. (Original) The method of claim 46, further including the step of connecting said first and second buffer output resistors in series with said first and third resistors.

48. (Original) The method of claim 41, further including the step of providing a substantially constant voltage across the variable resistor in the RC oscillator, and thereby generating a substantially constant current flowing through the variable resistor.

49. (Original) The method of claim 48, further including the step of mirroring said substantially constant current for alternatingly charging and discharging a capacitor in the RC oscillator.

50. (Previously presented) The method of claim 41, wherein the substantially identical structure of the variable resistors comprises a plurality of resistors coupled in series with one another and a plurality of transistors, each transistor coupled in parallel with a corresponding one of the plurality of resistors, where a gate of each transistor is controlled by the output of the RC oscillator.